DS-CAN2

Technical reference manual

Thank you!

Thank you very much for your investment in our unique data acquisition systems. These are top-quality instruments which are designed to provide you years of reliable service. This guide has been prepared to help you get the most from your investment, starting from the day you take it out of the box, and extending for years into the future.

DS-CAN2

1   Table of contents

2   Safety Instructions

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Warranty Information:
A copy of the specific warranty terms applicable to your DEWESOFT product and replacement parts can be obtained from your local sales and service office.

Support

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DS-CAN2

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Safety symbols in the manual:

WARNING Calls attention to a procedure, practice, or condition that could cause body injury or death.

CAUTION Call attention to a procedure, practice, or condition that could possibly cause damage to equipment or permanent loss of data.

WARNINGS
The following general safety precautions must be observed during all phases of operation, service, and repair of this product. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the product. DEWESOFT d.o.o. assumes no liability for the customer's failure to comply with these requirements.

All accessories shown in this document are available as option and will not be shipped as standard parts.

DS-CAN2

Environmental Considerations

Information about the environmental impact of the product.

Product End-of-Life Handling

Observe the following guidelines when recycling a DEWESOFT system:

System and Components Recycling

Production of these components required the extraction and use of natural resources. The substances contained in the system could be harmful to your health and to the environment if the system is improperly handled at it's end of life! Please recycle this product in an appropriate way to avoid an unnecessary pollution of the environment and to keep natural resources.

This symbol indicates that this system complies with the European Union's requirements according to Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). Please find further information about recycling on the DEWESOFT web site www.dewesoft.org

Restriction of Hazardous Substances

This product has been classified as Monitoring and Control equipment, and is outside the scope of the 2002/95/EC RoHS Directive. However we take care about our environment and the product is lead free.

Safety instructions for all DEWESOFT systems

- The DEWESOFT data acquisition systems may only be installed by experts.
- Read your manual before operating the system.
- Observe local laws when using the instrument.
- Ground the equipment: For Safety Class 1 equipment (equipment having a protective earth terminal), a non interruptible safety earth ground must be provided from the mains power source to the product input wiring terminals or supplied power cable.
- DO NOT operate the product in an explosive atmosphere or in the presence of flammable gases or fumes.
- DO NOT operate damaged equipment: Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, REMOVE POWER and do not use the product until safe operation can be verified by service-trained personnel. If necessary, return the product to DEWESOFT sales and service office for service and repair to ensure that safety features are maintained.
- Keep away from live circuits: Operating personnel must not remove equipment covers or shields. Procedures involving the removal of covers or shields are for use by service-trained personnel only. Under certain conditions, dangerous voltages may exist even with the equipment switched off. To avoid dangerous electrical shock, DO NOT perform procedures involving cover or shield removal unless you are qualified to do so.
- No modifications are allowed at the instrument. The fuse in the power module has to be replaced by the same type. For continued protection against fire, replace the line fuse(s) only with fuse(s) of the same voltage and current rating and type. DO NOT use repaired fuses or short-circuited fuse holder labels and print on the power module may not be removed.
- DO NOT service or adjust alone. Do not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.

DS-CAN2

- DO NOT substitute parts or modify equipment: Because of the danger of introducing additional hazards, do not install substitute parts or perform any unauthorized modification to the product. Return the product to DEWESOFT sales and service office for service and repair to ensure that safety features are maintained.
- Before opening the instrument (experts only) or exchanging the fuse in the power module disconnect power!
- Don't touch internal wiring!
- Don't use higher supply voltage than specified!
- Use only original plugs and cables for harnessing.
- You may not connect higher voltages than rated to any connectors.
- The power-cable and connector serve as Power-Breaker. The cable must not exceed 10 feet, disconnect function must be possible without tools.
- Safety of the operator and the unit depend on following these rules.

3   Specifications

CAN bus	
Number of ports	2
Interface type	CAN 2.0B, up to 1 MBit/sec
Special applications	OBDII, J1939, CAN output
Galvanic isolation	isolated
Bus pin fault protection	±36V
ESD protection	8kV
General specifications	
Power supply	6*-36 V DC
Maximum sensor power consumption	6 W
Maximum power consumption	11W
Interface	USB 2.0 interface
Physical dimensions	105x90x30 mm
Weight	230 g
Operating temperature	-20 to 60 deg. C
Storage temperature	-40 to 85 deg. C
Humidity	95% RH non condensing @ 60°C

* Startup voltage 7V

DS-CAN2

4 Device operation

4.1 Front and back side

Front connectors:

Back connectors:

4.2   Connectors

9-pin D-SUB male connector for CAN bus:

Pin Assignment
1: +5V
2: CAN_LOW
3: DGND
4: RES
5 :RES
6: DGND
7: CAN_HIGH
8: RES
9: +12V
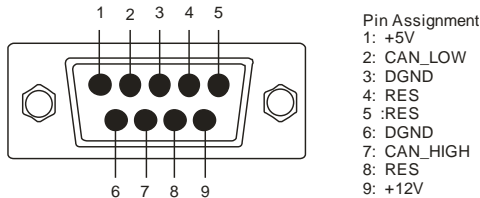
Power supply (mating cable connector: FGJ.1B.302CLLD42Z)
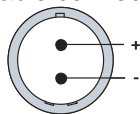
LEMO EGJ.1B.302.CLA

Sync connector (mating cable connector: FGG.00.304CLAD27Z)
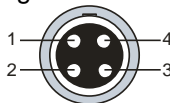
Pin Assignment
1: CLK
2: Trigg
3: RES
4: DGND

LEMO EGG.00.304.CLL

DS-CAN2

5   Driver installation

To install the driver of DS-CAN2, please connect the device to the PC with USB cable. If the driver is not installed, the following message will appear:

Press »**No, not this time**« and click **Next** to continue.
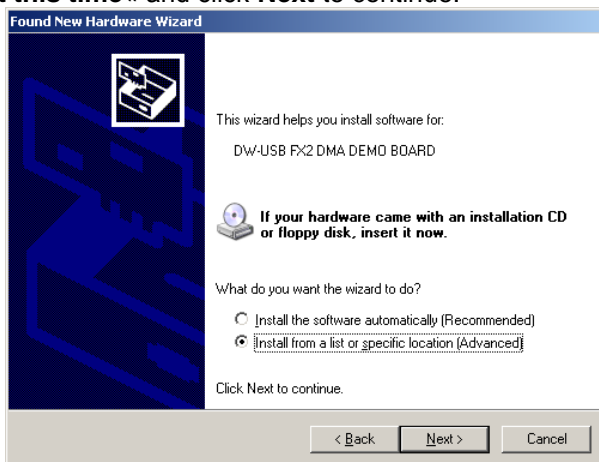
Select »**Install from a list or specific location (Advanced)**« option and click **Next**.

The driver should be located on the system CD. You can either point out this location or just simply select »**Search removable media**«.
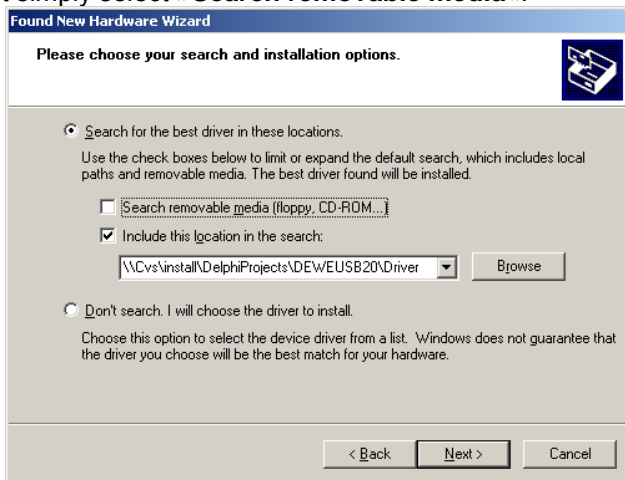
The installation procedure will install the driver.
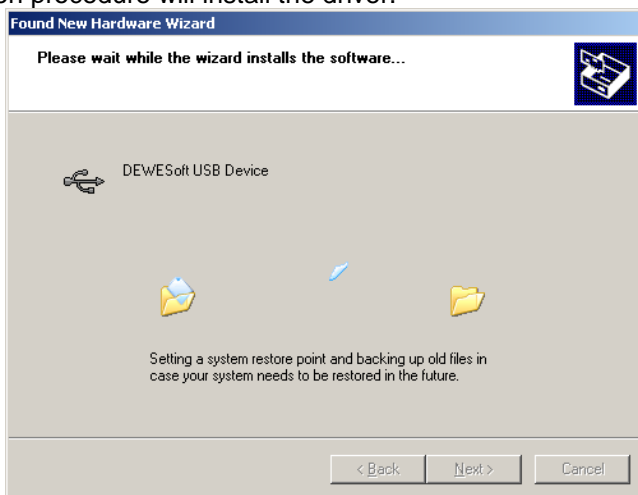
Finish the Wizard with **Finish** button.

DS-CAN2

6   Using DS-CAN2 in Dewesoft

6.1   Hardware setup

To enable analog input and counter in Dewesoft, go to System – Hardware setup CAN section and choose Dewesoft USB device.
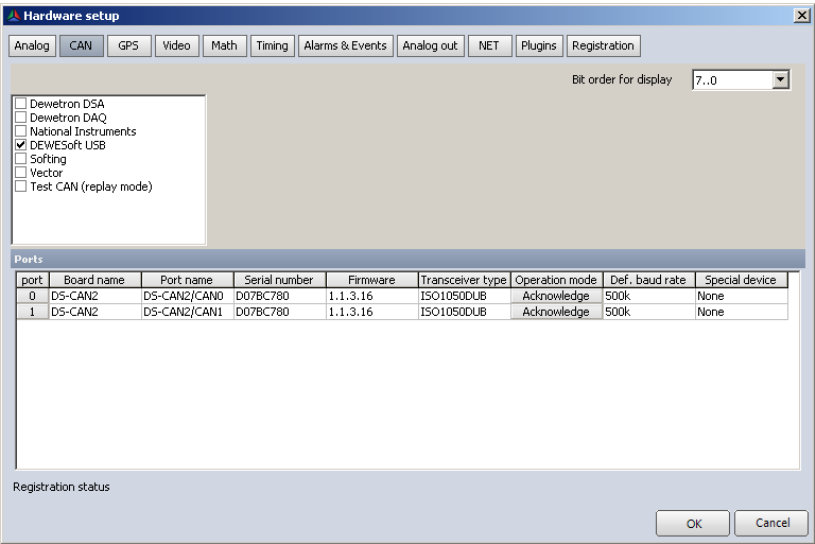
6.1.1   Start up of the device

Please connect the power supply of the device prior to connecting it to the USB. Then make sure that the device is connected to the PC when starting up Dewesoft. If the device is not connected, Dewesoft will open the Hardware setup screen and note that the device is missing.
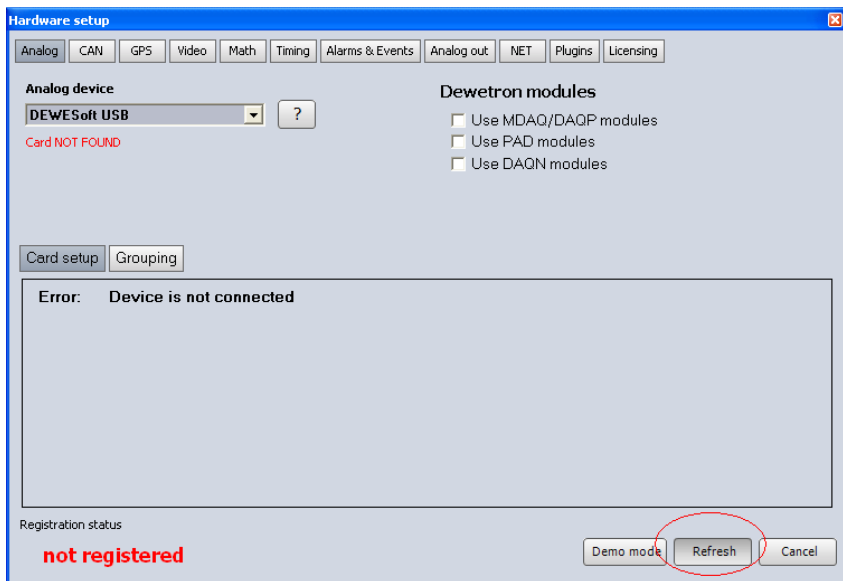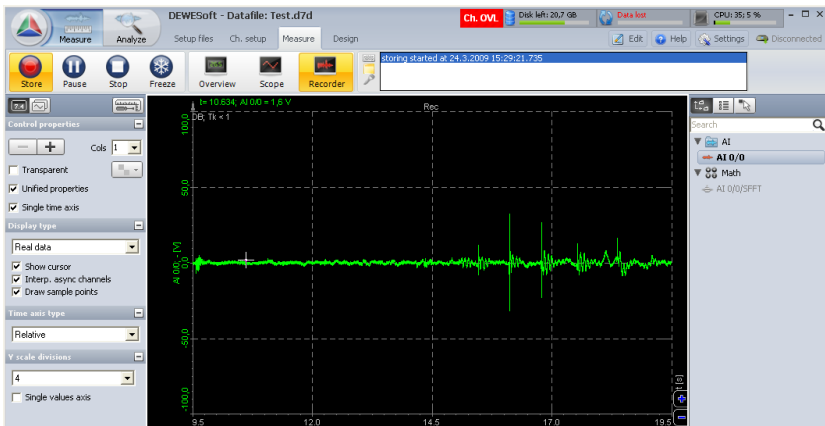
If you plan to simply review the files, please select "Demo mode". If you plan to do a measurement, connect the device and click refresh button.
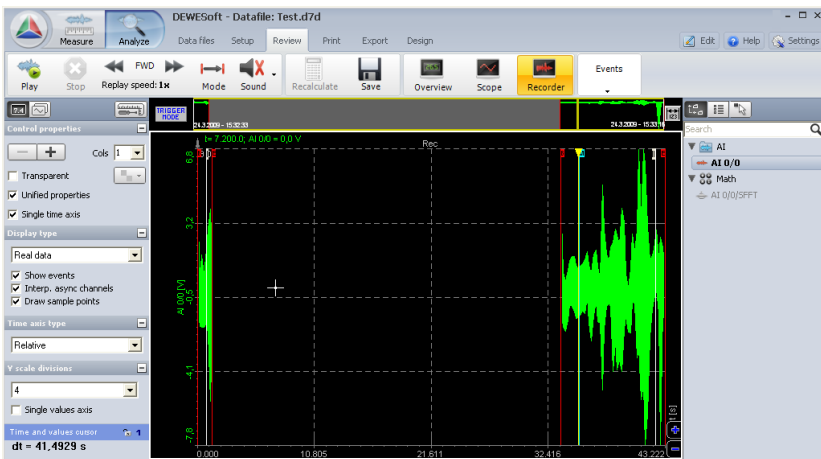
DS-CAN2

6.2 Loosing USB connection

When acquiring data and the USB connection is lost, the acquisition will stop. In this case reconnect the unit and restart the acquisition with reconnect button.

In this case (if the data was being stored, the gap will be filled in with missing data).

7   Firmware upgrade

To make firmware upgrade of the device, please connect DS-CAN2 with the USB cable to the computer. It is assumed that the drivers are already installed.

Important: Make sure that the external power supply is NOT connected during the firmware upgrade.

Please download the latest firmware from Dewesoft web site. Then run "USB Firmware Upgrade Tool" program.
Next select DEWEsoft USB in the "Device" combo box.
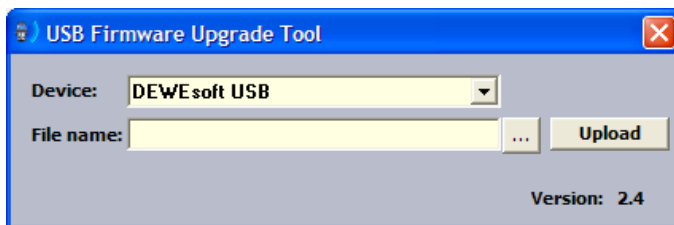
Press "..." button, select DS-CAN2_xxx.fwu file and click Open.

Press Upload button and wait until progress bar reaches 100%. Please don't interrupt this operation.

When upload is finished, press OK and new firmware is uploaded on the device. If this fails for any reason, repeat the upload process again.

When the process is finished, disconnect the USB, reconnect power and then reconnect USB again.

DS-CAN2

8 Dewesoft LICENSE INFORMATION

Dewesoft 6 LICENSE INFORMATION

To register your instrument in Dewesoft, please go to System – Hardware setup and follow the instruction from user's manual to select Dewesoft USB device in Analog and CAN tab sheet. If they are selected, deselect the DAQP/MDAQ amplifiers and go to licensing tab. Enter the license key 2187801 for A/D boards and 2187801 for the CAN device.

Dewesoft 7 LICENSE INFORMATION

With the purchase of DS-CAN2 you are entitled for free upgrades of the software and firmware within all Dewesoft versions 6 and 7.

In Dewesoft 7, select device like in version 6, go to registration, select Create and enter the license key provided in licence agreement:

Press Register Online (computer must be connected to Internet) and you will get the registration file.

DS-CAN2

Hardware setup

Analog | CAN | GPS | Video | Math | Timing | Alarms & Events | Analog out | NET | Plugins | Registration

| User name | User location | Reference number (optional) | Device number (optional) |

Your name | Your location | | |

Existing license(s)

	Used	License key	Software version and options	Status
Create	✔	DW7-KZ95-J9RC-ZTM1	SE; Options:CAN	Valid
Delete				
Update				

Registration status

SE

OK | Cancel